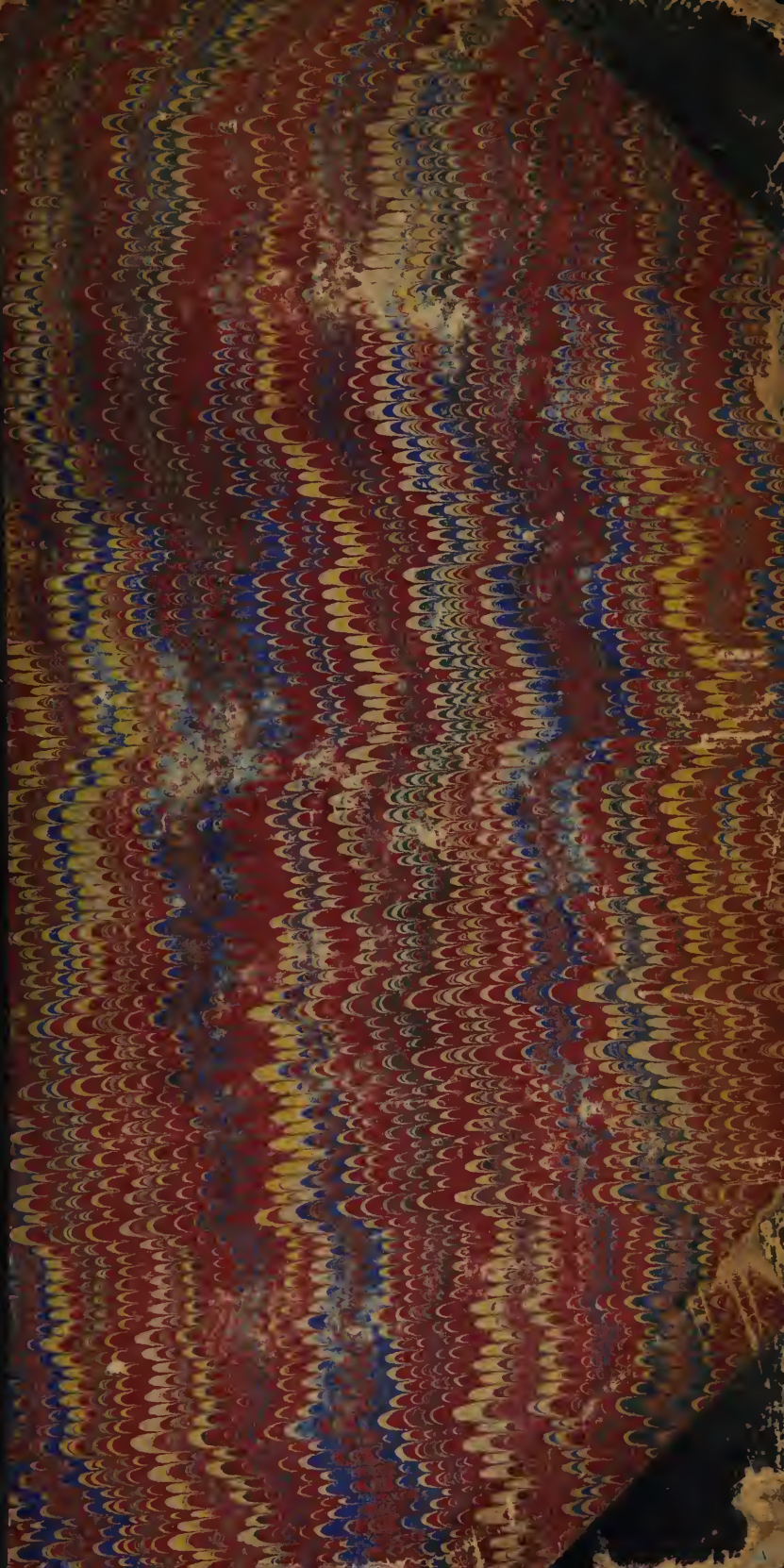


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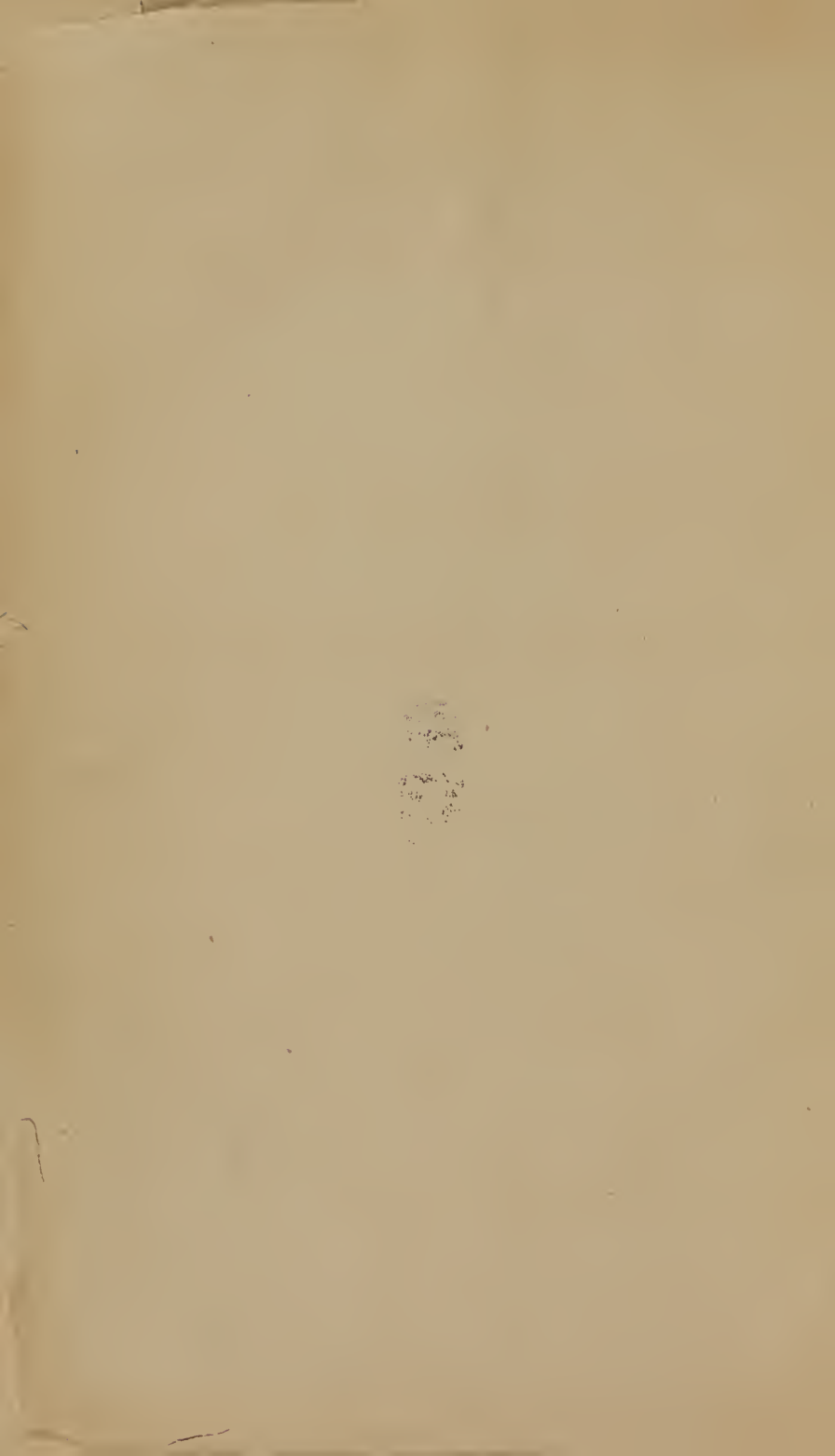
ANNEX

Section,

No. 24093

DUE  LAST DATE

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NEW
FACTS AND REMARKS
CONCERNING
IDIOCY,

BEING A LECTURE DELIVERED BEFORE THE NEW YORK MEDICAL
JOURNAL ASSOCIATION,

October 15, 1869.

BY
EDWARD SEGUIN, M. D.

NEW YORK:

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DEDICATION.

THE drift of this lecture took shape last summer, during a visit to some schools for idiots: to see is to think. After its reading, it was dismembered to suit several publications, namely, *The Quarterly Journal of Psychological Medicine and Medical Jurisprudence*, *The Medical Record*, *Appleton's Illustrated Journal*, *The World*; and it was also reproduced, with considerable mutilations, in numerous country papers. Parent-authors have seldom the Medea's taste for scattering the limbs of their progeny. I, personally, confess to the opposite tendency; and thought of re-uniting these ideas as parts of one of the documents that will hereafter serve to write the history of the efforts made in this Republic to improve idiots and to eradicate idiocy. But to be acceptable, this light contribution to the bibliography of nervous diseases needs the patronage of a name indissolubly con-

needed with the American schools for idiots; and I beg leave, in view of giving these few pages a borrowed value, as well as of paying a personal tribute of gratitude, to inscribe them to the best friend of the children of the State of New York, who suffer under the disabilities of idiocy,

The Hon. James H. Titus,

President of the Board of Trustees of the New York State
Asylum for Idiots, etc.

Most respectfully,

EDWARD SEGUIN.

NEW YORK, *February* 15, 1870, }
58 West 26th Street. }

PUBLICATIONS BY THE SAME AUTHOR.

1839. *Resumé de le que nous avons fait pendant quatorze mois.*
Esquirol et SEGUIN. Paris.
1839. *Conseils à M. O...., sur de l'éducation de son enfant idiot.* Paris.
1842. *Théorie et pratique de l'éducation des idiots.* Leçons aux jeunes idiots de l'hospice des incurables. 1re partie.
1843. Ditto. Second partie.
1843. *Hygiène et éducation des idiots.* Extrait des annales d'hygiène a de medecine legale. Paris. J. B. Bailliere.
1846. *Images graduées a l'usage des enfants arriérés et idiots.* Paris. Aubert.
1846. *Traitement moral, hygiène, et éducation des idiots, etc.*
1 vol. 734 pages. Paris. J. B. Bailliere.
1847. *F. R. Pereire, premier instituteur des sourds et muets en France.* Sa methode pour faire parler les s. muets.
1 vol. 355 pages. Paris. J. B. Baillere.
1852. *Historical Notice of the Origin and Progress of the Treatment of Idiots.* Translated by Dr. J. S. NEWBERRY, Cleveland, Ohio.
1864. *Idiocy, its Diagnosis and Treatment by the Physiological Method.* Translated by Dr. L. P. BROCKETT, Albany, N. Y.
1866. *Idiocy and its Treatment by the Physiological Method.*
Revised by the son of the author, Dr. E. C. SEGUIN.
1 vol. 457 pages. William Wood & Co., Publishers,
61 Walker Street, New York.
1870. *New Facts and Remarks Concerning Idiocy.* W. Wood & Co., New York.

SYNOPSIS.

What Family Physicians must know about Idiocy.—Differential Diagnosis and Prognosis between Idiocy Improvable and Idiocy Incurable.—State and Private Institutions *for Idiots*; their Number, Importance, and Management in Syracuse, N. Y., and Barre, Mass.—General and Individual Training.—Devoted Female Teachers.—New Causes of Idiocy.—Social Evils Prolific of Nervous Degeneracies.—The four Main Causes of Deterioration and Depopulation actually at Work.—Necessity of a School for the Comparative Study of *Idiocy* and Normal Youth; also of the Intellectual and Physiological Methods of Education.—Idiocy the Creative Cause of Physiological Education.

LECTURE.

Mr. President and Gentlemen :—Permit me to enter upon my subject rather abruptly, as this will be only a lecture, and can hardly attain the proportions of a pamphlet, or *Memoir à Consulter*, on topics pertaining to the treatment and prophylaxy of the neuroses of childhood, which culminate in paralysis, chorea, epilepsy, and idiocy.

There are men who contract all that they touch ; there are others who enlarge all the ideas with which they come in contact. To see only idiocy in idiots, would be to narrow it. To see beyond, what benefit can accrue to society from the actual improvement of idiots, and from the discovery of means of improving general education by the method expressly contrived for idiots, at once incorporates idiocy—retrograde phenomenon as it is by itself—among the agents of progress.

The devoted men and women who gave a quarter of a century to the improvement of idiots, have thus enlarged the theoretical and practical importance of their subject, and rendered necessary an occasional review of the progress accomplished through their labors, progress in which the medical profession at large may not be participant, but of which we can not well afford to be ignorant.

Idiocy being comparatively of rare occurrence, and its treatment requiring the concourse of resources seldom met with at home, a family physician is hardly expected to treat idiots, and may as well practically ignore their mode of training. But he is often consulted upon the chances of recovery, and the means of improvement provided abroad for them ; and if he answers clearly, the parents follow his advice ; if not, they consult the sorceress, witch, or spiritual deceiver, who fill up the blank left in their hopes by our ignorance. Therefore it

is necessary, upon more than one account, that we, physicians, become familiar with the minimum of *what a general practitioner must know about idiocy.*

That I will recapitulate.

1. For the diagnosis and prognosis of idiocy, the want of comprehension of our ideas by an evidently backward child, his incapacity to follow the ordinary course of instruction, his general or special intellectual deficiencies (when unaccompanied by physiological disorders), the form of the head, unless in extreme hydro and micro-cephaly, is no criterion.

But the following tests are of value: (a) The walk regularly swinging from side to side, not forward and backward, like that of the inebriate. (b) The hand hanging, or automatically busy, or moist with saliva, which escapes from the meaningless mouth, more abundant in excitement. (c) The look oblique and vacant, or sliding about, lustrous and empty. (d) The speech null, or limited to a few involuntary words, or to repeated syllables, or to some obsolete tune, with an occasional yell inserted, to express a want. To sum up, the criterion of idiocy is found more in the physiological than in the psychological symptoms.

The prognosis is favorable: (a) When the walk does not deviate much from the centre of gravity. (b) When the hand is firm without stiffness, not busy with automatic movements, can take hold and let go on imitation or command. (c) When the look is easily called to action, and the other senses are unimpaired. (d) When the words, even imperfect or few, have a connected meaning, and come out opportunely. (e) When the child is active, without restlessness, is pleased to obey, sensible to eulogy, quite as capable of giving as of receiving caresses.

Contrarily the prognosis is unfavorable: (a) When, without paralysis, the walk is next to impossible, and accompanied (besides the sideway swinging) by frequent headlong plunges. These plunges forward supersede the lateral movement at a fearful rate and force when the children are confined in chairs. (b) When the fingers, tapering and cold, stiff or relaxed, can not be flexed or extended, can not grasp or let go, being other-

wise engaged in some automatic movement, whose prevention causes pain, and lasts no longer than the obstacle opposed to their automatic habit. (c) When the look (besides being useless and unfixable) is implicated in the automatic action of some other organ, of the fingers, for instance. (d) When the touch presents profound or vast anæsthesia (oftener than hyperæsthesia), disclosed by extensive mordications, bloody lacerations, fearful blows, unfelt by the child, though so painful to witness. (e) When some feelings of affection have been developed by kind parents, and are not followed by corresponding intellectual progress. (f) When idiocy is complicated by extensive paralysis, and worse, by epilepsy.

Upon the above *minimum* of knowledge of the symptoms of idiocy, a physician may form and convey to the parents an estimate of what can be expected from the proper training of the child. Now the question arises: Where can the child be best educated? answer to which demands a summary knowledge of the institutions for idiots, that the following sketch is intended to furnish.

Many sufferings yet need alleviation, many infirmities cure, many sorrows protection, many weaknesses support; but one rejoices to see that, through the flow of egotistic currents, arises now and then in our midst a new islet where the needy can rest. The institutions founded during the present generation in behalf of idiots are charities of that class, and present this unique character, that, called for, conceived and executed by a single jet of the heart and brain, with all the resources of a luxuriant and generous society, they have, all at once, attained a degree of material perfection that leaves nothing to wish by the philanthropist or even the misanthrope. How different an aspect was presented at the beginning of this century, in the growth of the institutions for the insane! How long it took to disencumber them from the cold flagstone, dripping walls, iron bars and carcanets, riveted chains and bolts, and other decorations of the old prison? The ferocious Couthon (so-called because he could not see the use of noblemen in livery and of abbots of the alcove in modern society), in his capacity of administrator of the hospitals and prisons of Paris,

took an initial interest in that reform. He witnessed at Bicêtre the efforts of Pinel, and gave the first authorization to loosen their chains, and let them stand free before their benefactor; though saying at the same time to the hero: "My dear doctor, I give the authorization, but, on your demand, at your risk and peril, sure that they will kill you!" Since then it has taken three generations of Esquirols, Connollys, Leurets, to raise, upon that old soil of horrors, the present spruce, placid, and benevolent institution for the insane, hardly distinguishable from that for idiots by its magnitude.

This, Mr. President and gentlemen, introduces the subject of our own schools for idiots.

A little more than twenty years ago, there was no educational establishment for idiots in the United States; now there are two in New York, two in Massachusetts, one in Connecticut, one in Pennsylvania, one in Ohio, one in Kentucky, one in Illinois—at least nine in all, where above one thousand children are under instruction.

An idea of these institutions may be formed by visiting the New York State Asylum for Idiots, which is a public charity, and the School for Feeble-minded Children, at Barre, Mass., which is private and self-supporting. Both were created by the same man.

Twenty-one years ago, Dr. Hervey B. Wilbur, then a physician at Barre, Mass., undertook the novel and perilous enterprise of attaching his own fortunes and those of his young family to the task of educating idiot children. He had no predecessor in this undertaking in this country, and he was sustained in his good work, against the forebodings and ridicule of friends and neighbors, only by the bravery of his wife.

After a few years, during which the young couple gave uninterrupted attention to their pupils, even to the extent of keeping the most helpless in their own bedroom, Dr. Wilbur was called, first, to Albany, and subsequently (when the State Asylum was erected) to Syracuse, there to organize the State institution for this helpless class; and was succeeded at Barre by Dr. George Brown, under whose careful and able management that school has attained its present high standing.

These two establishments demand a separate notice, because they are in some respect types of two classes of institutions, of two systems of physiological training, and of two wants unequally satisfied in our present organization.

The New York State Asylum for Idiots was founded by an act of the New York Legislature, dated July 10, 1851; and at every session since, that body has voted an appropriation in its behalf. It is situated on one of those alternately green and white knolls which form a natural amphitheatre, whence the eye looks down to the wonderful growth of the "city of salt," Syracuse, below. Among the curling smoke of iron, glass, pottery, and other furnaces, above the sea of vats brimful of brine, stands the asylum—a tall and elegant building in the Italian style, surrounded by tasteful grounds, flanked by stables and farm-houses, extending its fields right and left, and its pleasant groves—summer resorts of the children—over a tract fifty acres in extent.

The main building is compact and well arranged, containing, as usual, the apartments of the officers, as well as the living and training accommodations for a hundred and fifty pupils, the usual number in attendance. It contains also, what can hardly be found elsewhere, a library of school-books and of works on metaphysics, psychology, physiology, and nervous pathology, expressly selected to aid in the elucidation of the problems which occur in the treatment of nervous anomalies, and in the education of a class of children who are certainly not susceptible of education by any other system than that of physiological training. This collection belongs to the present superintendent; but it ought not to be permitted to leave the place with him. Judiciously and slowly, very slowly increased, it will form the aggregate of written knowledge on the questions connected with mental retardation and development, and will be of invaluable service to the future teachers of idiots.

In planning this institution, Dr. Wilbur had no model for reference, nothing but books and theories. It was the first asylum ever expressly built for idiots. His practical knowledge of their wants during the previous two or three years, and his

remarkable mechanical skill and peculiar sense of the fitness of things, enabled him to overcome in an extraordinary degree the architectural difficulties in the construction of such a building. Idiotic children require more room, more air, more light, more warmth, than other children ; all these, and especially the greater amount of room, which is indispensable in any attempt at improving these weak and sluggish natures, he provided for them.

The pupils of the asylum are of both sexes, and in age range from seven years to twenty ; they are chosen from a much larger number of applicants, in view of their possible improvement with the means there at command. Those who are absolutely helpless, either on account of restlessness, immobility, or accessory disease, must, of course, be rejected, since, if received, they would either be neglected, or each one would monopolize the entire time of an attendant ; while the State appropriation will not permit more than one nurse or attendant to five or six children.

The pupils remain in the institution as long as there is visible improvement and progress ; for, though nominally an asylum, it is really a training-school.* On admission, a description of the antecedents and existing condition of each pupil is entered on the records ; and in every case sufficient freedom is allowed the child, to let him show his capacities, peculiarities, and tendencies. The study of these serves as a basis for his assignment to a particular group. This assignment of the child to his appropriate group or class is a step which requires remarkable discernment and thorough knowledge of the peculiarities of idiots ; for the child may need to be with children of about the same development with himself, or with those who are further advanced, in order to stimulate his ambition ; he may require to be with few or with many, with those who are too quiet, in order to calm down his excessive excitability ; or

* Exceptionally, a few old pupils, who are without property or friends anywhere, are allowed to stay on the farm or in the laundry, where they make themselves useful and happy, and are paid what their work is worth. This is a paternal, not yet legalized, arrangement.

with the restless ones, to rouse his more sluggish nature, etc., etc. He may also need to change from one group to another, either in consequence of his progress, or to subject him to a different mode of training.

This grouping introduces the subject of education; and what can be more interesting to the mind than the process by which another mind is let out or freed from the bondage and fetters which have hitherto imprisoned it? The success may be but partial; but it is absolute, so far as it goes.

The first problem is to disengage and develop the mind of an idiot, which has hitherto been as if hidden beneath the useless muscles and the insensate nerves, components of his weak and inefficient body. The second problem, though by no means the last, is to apply this partially liberated intellect to the acquisition of useful knowledge and good habits.

These ends are accomplished, in Syracuse, by a series of agencies whose key is in the hand of the superintendent, and whose movements are intrusted alternately and unceasingly to attendants, gymnasts, and teachers. The idiots (*ιδίος* means isolated) are not for a moment let alone. From morning till night they are led from one mode of activity to another—seated only to rest, and constantly working out their own progress through experimental and lively teachings. Early in the morning, as soon as dressed and fed, these children of the *néant* begin to do something. From half hour to half hour, they pass from singing or hearing music to exercises of locomotion, standing, training of the hand to prehension, imitation, feeling; then the errors of the senses are corrected, their modes of perception improved in quickness or accuracy, and raised progressively to phenomena more and more intellectual. The speech, its concordance with actions, the movements performed at command, the exercise of the will through obedience, the morality of labor, of partaking of food, of helping relations to each other, of pleasure and pain, of concurring with God—in the productions of Mother Earth—all these exercises have a very different moral, intellectual, and hygienic result from those obtained in schools where book, child, and chair are screwed together three hours at a time, or in reformatories

where children drive the same kind of peg in the same kind of sole, from morning to night, from day to day, etc.

"But," does the reader ask, "are not reading, writing, arithmetic, geography, etc., taught also?" Oh, yes. Dr. Wilbur has provided abundantly for instruction in these, and has devised and procured much apparatus to aid in the matter, and all the children, so far as they can, acquire a knowledge of these studies. Some become, after a time, remarkable proficient in penmanship; and one, occasionally, in geography, or in the rapid combinations or evolutions of numbers, astonishing even skillful teachers by his readiness on these subjects; but the majority profit more by the physiological than by the classical training; they are decidedly poor scholars, and are only efficient in kindness, honesty, and love of labor proportionate to their power.

This seemingly small success is really very great, when we compare it with the original incapacity of idiots. Dr. Wilbur has attained it by his superior administrative capacity, his tact in choosing, commanding, and keeping his helpers, but more than all by his adherence to physiological training. Without group teaching, he could not have taught so many idiots with so few subordinates; without the incitement of systematic imitation, he could not have developed wills where even instincts were scarcely to be discovered; without sensorial exercises, he could not have accumulated distinct sensations, pabulum for comparison and judgment; without general gymnastics, he could not have rendered human the balanced animal gait; and, without special gymnastics, he could never have given precision to localized movement, nor restored the paw-like hand of the idiot to the exalted place assigned it by Galen, at the summit of the creation, on a level with the brain itself. This, at least, Dr. Wilbur has done, and is doing every year better and better for the idiot children of the New York State Asylum.

Turn we now to Barre, and see what Dr. George Brown has accomplished for a class of children of similarly incomplete development, but of wealthier parentage. Though I had expected to find a marked difference between a State and a private

institution, yet the contrast was even greater than I had anticipated.

Leaving the Boston and Albany Railway at Brookfield, we rode between the typical hills of central Massachusetts, on a road alternately shady and open, sometimes in company with a brook, the only living thing heard in these narrow valleys, where birds even have learned from the forefathers not to chirrup or flutter between their morning and evening prayers. We passed cotton and cheese factories, cottages and dwellings—all silent, too—discreetly avoiding, not elbowing, each other, as they do in our bustling State. Besides, they are all white, giving no clue to their age—those of dubious date having put on the fresher paint, not unlike the old folks who leave slovenliness to rosy youth, and hide under glossy linen and diamonded duck the gradual falling of the waves of their pulse, a secret between themselves and the sphygmograph.

This description is no digression, since it prepares us to find Barre a scattered village, and its institution for idiots a discollection of elegant or well-appointed buildings. It is situated on a broad and healthy plateau, enconcealed in trees. You come upon it suddenly; without preliminary approaches, you have before you a shallow and large basin of flowers set in raised margins of rich velvety turf, served to the surprised senses like a repast of scent and colors, guarded by stately evergreens trimmed after the manner of Versailles, and fronted to the left by the principal building, whose steps, columns, architraves, and galleries, rise above each other in Vitruvian *ordonnance*. On entering these formal premises, their impression recalls forcibly the opening scene of "Telemaehus," to be seen in old editions of the *chef-d'œuvre*, and puerile memory whispers: "*Calypso ne pouvait se consoler*," etc. But there is no mythology here, and, if Fénelon is present, it is neither as the teacher of socialism to the Dauphin of France, nor even as the more conspicuous of the early writers on the education of women, but as the promoter and inspirer of Christ-like charity.

In this mansion, sanctified by its present use, Dr. Brown and his family reside, and within hearing distance are the rooms assigned to the worst cases of bodily and mental infirmity,

so that none can suffer without being heard either by Dr. or Mrs. Brown, whose care and watchfulness over the welfare of all under their charge is constant and all-engrossing. The other buildings are occupied by other pupils and their attendants, according to their fortune and the treatment which may be necessary; to each building are attached all appropriate conveniences, gardens, walks, etc.; the new building, recently completed under Dr. Brown's supervision, surpasses the rest in the completeness and perfection of its accommodations. With such ample provisions as these for the comfort of its inmates, the institution of Barre fulfills its twofold object—being a school for those who can improve, a retreat for those who can not.

Here the training and nursing of individuals is as strictly carried out as the general training is at Syracuse. Private apartments, servants, horses, carriages, or any other comfort, may be indulged in, which is beneficial to the pupils and within the limits of their means. There are many benefits, as we shall see presently, derived from this somewhat large liberty.

There are at Barre about fifty patients brought from all parts of the country. How many of these are offshoots from some kind of aristocracy, miserable sprouts dried up with paralysis, softened by imbecility, shaken by the St. Vitus dance, thundered down by the *haut-mal* and the *petit-mal* of epilepsy and what else . . . that may befall haughty and empty families for believing themselves above the brotherhood of man, the universal family of patient workers, God alone knows. Mrs. Brown, whose opportunities for gathering observations in regard to children of this class have been greater than those of any other person now living, and whose turn of mind qualifies her admirably for clear and correct generalization, remarked to me that these children of endless siestas and satieties, or of moneyed and sensualist hyperæsthesia, differed materially from those equally incapacitated by local influences, home privations, and mute motherly suffering during pregnancy; the former presenting more variety, the latter more uniformity in their symptoms. If this generalization of hers is verified, and I know of no facts nor reasons to the contrary, she is entitled to rank with the ablest thinkers on

this subject. To show the importance of her discovery, let us give it a shape and formula :

Among the nomadic tribes there are no more idiots than insane persons.

In certain secluded settlements, idioey is a sequel to cretinism.

Among the laboring classes, who know of civilization only by its hardships and sufferings, idioey is found in its simplest and most easily recognized forms, sthenie and asthenie.

Among the wealthier classes, idiocy is not only oftener aggravated by accessory diseases, but also complicated with abnormal semi-capacities or disordered instincts, which produce heterogeneous types to an almost unlimited extent. It is from this class almost exclusively that we have musical, mathematicial, architectural, and other varieties of the *idiot savant* ; useless protrusion of a single faculty, accompanied by a woful general impotence.

This discovery of Mrs. Brown, of which I have thus tried to make myself the exponent, will have a bearing on the future progress of anthropology and education. Here I can already make use of it to elucidate a few points of physiological education relating to the individual training of idiots.

It was in practice empirically admitted that some idiots can be better improved by general training (a kind of attraction), and some by individual training (a kind of incubation, if I may call it so). The fitness of either exclusively, or of its preponderance in the educational process, was presumed from observation of the functional anomalies, and, in doubtful cases, a trial of both methods was resorted to, to determine which was best. Diagnosis, however, will be rendered more easy by the new criterion just laid down, and a rational diversity of treatment may now be insisted upon, almost from the start, to the benefit of the pupils and to the more complete satisfaction of the teachers, since they will the better understand their task.

The part of this task mostly insisted upon at Barre is, for the reasons assigned above, the individual training. Sexes being separated, varieties and even individuals in some cases being kept apart, the school and gymnasium do not, of course, present as lively an appearance as they do in a State institution. But

on an examination of these smaller groups, or of the single idiots engaged either with a teacher or with a child of higher grade than themselves, you can easily discern the character of this individual training. It is the training of deficient functions by the immediate action of the teacher on the child. But, lest this definition should itself seem obscure, I will illustrate it by some examples of the method actually pursued in Barre. One of these has reference to *imitation*, which, after instinct, where it exists, is the first lever of instruction for the idiot. Imitation, in its varied forms, opens the way to instruction proper. By it every member of the body, as well as the body as a whole, is drilled to regular action; the hands, in particular, are repeatedly trained to take all those positions which will be required in the acts of ordinary life or in the course of education. By it children, whose whole gait and manner is stiff and unyielding, or who are restless or immovable, are in more than one sense rebuilt into human shape and for ready usefulness.

Under the same individual incubation-like training, sensorial gymnastics extend the sphere of knowledge, at the same time that they perform the more important function of increasing the modes of vitality from without within; as the sap comes up the tree from under the bark, so the blunted surfaces of the idiot are taught to circulate the feelings. The touch is developed by a series of tactile impressions, in which the pupil is told nothing, shown nothing, but made to feel extremely opposite properties of matter by contact alone. In other exercises it is the sight or audition which is trained to perceive, unaided, impressions more and more delicate. Sometimes the exercises tend to develop the *accuracy* of feeling, sometimes to increase the *rapidity* of perception. By one series of exercises, one set of apparatus, the ultimate nerve-fibrils (innumerable and infinitesimal brains of the periphery) have their sensibility exalted; by other exercises, another set, the white conductors (or wires) are taught to forward in normal time a dispatch from the periphery to the central office of registration of impressions, etc. The improvement in these processes is capable of positive measurement, since, at the beginning, an idiot requires several seconds to transmit an impression from without within, or a volition or order from within

without, whereas the normal time for these operations is only $\frac{1}{25}$ th of a second for the former operation, and $\frac{1}{28}$ th for the latter. Thus the progress of sensation, perception, volition, and even self-control, may become susceptible of mathematical measurement, just in proportion as the method of physiological education is rendered more positive by the precision of those who apply it.

Here the question naturally arises : When inert children are, year after year, provoked to vitality in all its modes from without within ; when, by this slow process, they are progressively made to act, to feel, to speak, to will—some a little, some more, some like ordinary men—what part has the brain taken in this transfiguring revolution ? It received the impressions, it acted on the spur of external stimuli, it remained for a variable time as passive as a muscle whose contraction shall depend upon the excitation to contractility either of a centripetal or of a centrifugal nerve. But so far the encephalon did not give any evidence of spontaneity, its functional development took effect by continued impulsion from the periphery to the centre ; a centripetal process, during which the cerebrum sent nothing to the outer world, but the outer world sent everything to it from the periphery feelers through the nerve-cords. This attitude does not look like the supreme autoeracy assumed for the brain and symbolized by Minerva, emerging complete and perfect from the head of Jove ! The nervous system would seem rather like an informal republic, where the presiding officer is vested with great powers, which he exercises when he has learned what they are and when he can assume them, but meantime any one is at liberty to take the initiative who possesses the ability. Thence could be concluded that, at least practically, the centre of the nervous system, at any time, is at that point, be it where it may, in which its concentrated irritability produces its principal action.

This conclusion, deduced from the physiological training of idiots, corroborates the position taken by several recent anatomists and physiologists, whose discoveries and experiments tend to increase our estimation of the rôle played in the human organism by the pneumogastric and sympathetic systems, and

by the minor ganglia and peripheric fibrils; lowering to some extent the assumed omnipotence of the brain proper in the psychical domain. In this respect, as in several others, the treatment of idiots has proved that its fundamental doctrine lay deep in positive knowledge, and that, even in its infancy, it can be called to offer valuable and important testimony in questions relative to the progress of the correlation of sciences.

I began this paper as I entered the institutions for idiots, thinking only of their modes of improvement, and trying to make them known to my *confrères*; but the philosophy of the subject has carried me far from the more particular description I had intended to give of the method adopted for the regeneration of these unfortunate creatures, the offspring of our sufferings or our excesses; let me, in closing this descriptive and didactic part, recur for a moment to these institutions.

I have endeavored to convey an idea of the differences which do and must exist between a public and a private school for idiots; how they differ in their social and scientific objects; ministering comfort in proportion to previous wants and habits; treating the children by the same method, here synthetically, there more analytically; accomplishing the same charitable and educational object, by means somewhat different, but by the choicest women and in the same Christian spirit. In this they are alike; in every thing else they are different. Let us see:

(a) The State institution is but a school where idiots are received, if they can improve, and kept as long as they do improve.

(b) In it, the physiological treatment is applied mostly to groups, the children, constantly in contact, being raised up from idiocy by the incessant action of the whole on each.

(c) The sexes are completely separated in the dormitories and gymnasium—not always at recess. They take together their meals, lessons, walks, musical exercises, dancing, and other evening entertainments.

On the other hand:

(a) The private school is an institution for the young and improving idiot, and a life-long retreat for the hopeless cases.

(b) In it, the physiological method is applied to a pupil by a teacher, who carries him (with strict regard to his individuality) from instinctive to intellectual operations, through personal imitation, etc.

(c) The inmates live in separate buildings; boys and girls have their grounds, schools, teachers, matrons, attendants, etc., apart. Some even eat and are taught in their own rooms; the best of them only take their meals with the doctor's family, and enjoy evening games.

To sum up, it is difficult to understand, unless by sight, how the same thing can be done so well, and yet so differently, as it is at Syracuse and at Barre.

It is, I assure you, a pleasure and a duty to bestow upon them both, in their present condition of efficiency, unre-served praise. Had it been my good fortune to visit the training schools for idiots in other States, I have no doubt that I should have found them equally worthy of commendation. Did space permit, I should have desired also to speak of the services rendered to the cause of the physiological training of idiots by organizers like Dr. Joseph Parrish and his accomplished wife; by teachers like Misses Young and Wood, who count, at least, sixteen years of active service in Syracuse; and by authors like Dr. L. P. Brockett, whose essays and cyclopædic articles on idiocy have diffused more sympathy for idiots and more knowledge of the best modes of training them, throughout this country, than has been attempted in Europe.

I do not feel at liberty to leave this subject, so deeply interesting to me, without calling attention to the happy distribution of labor and proportions of the American institutions for idiots. The State schools for the poor; the private ones for the rich; sufficiently large to give free scope to the genius of a manager, not so large as to reduce him to the condition of a steward. We have seen that the creation of public charities of this high character is one of the glories of our age. Their overgrowth, in opposition to private genius and enterprise, would repeat the folly of those would-be religious establishments of the past, which European revolutions have leveled, leaving only in history their ruin as a warning. Let us hope

that the State institutions for idiots will escape that evil of excessive growth, which has already overtaken other establishments of similar character, in which patients are so numerous, that the accomplished physicians who have them in charge can not remember the name of each ; where, to superintend, practically means building, repairing, laying pipes for air, gas, heat, water, in the houses, in the grounds or fields, or under the Legislature. The man whose eminent capacities would be engrossed by these and similar cares could not easily be also the father, the physician, and teacher of idiots. Nor is it probable that he could contribute much toward the elucidation of those problems of hygiene, nutrition, creation of synergy in his pupils, etc., which are constantly recurring in his work.

Another danger would arise from the use of the money voted for the support of poor idiots in favor of rich ones, thereby altering the Christian character of these charities, and giving them a political perniciousness.

A worse and final danger would be, an open trial at absorbing private institutions in public asylums, thereby destroying even the shadow of originality and competition from this new field of energy. Honor to the State for what she does in behalf of the poor idiots : encouragement to the individuals who, unaided, try to do better ! All men, and particularly those filling official chairs, are subject to drowsiness, unless kept awake by active competition ; a single channel is sluggish, but if crossed by a new one, it receives a fresh impetus. Side by side, State and private institutions for idiots will stimulate each other ; the well-being of these children and the progress of physiological education require their coexistence, and will not fail to receive, each in its proper sphere, the hearty and intelligent support of the medical profession throughout the country.

Now, Mr. President and gentlemen, it is my painful duty to call your attention to the increase of social evils, which seems to act as the increasing causes of idiocy.

1. *Idiocy Reviewed in its Bearings on Anthropology.*—This study was begun by kind lovers of the curious and the wonderful. From time to time appeared one of these monographs,* the most ancient of which Linnæus took care to collect in his "Natural History." We owe to the great Boerhaave, that of John of Liege; to Louis Racine (as one would say in contemporaneous phrasology, Racine *le petit*), that of Mlle. Leblanc—a case of imbecility, of obscure origin and doubtful termination, in the mezzotinto of a convent; to Bonaterre and Itard, two *chefs d'œuvre* of description of the boy of the Aveyron, idiotic and savage altogether; to Daumer, the mysterious narrative of Caspar Hauser—an intelligent child, made practically idiotic by imprisonment between four walls, and seclusion from anything but a silent jailer and a wooden horse; and to Esquirol, who suffered the name of the present writer to appear with his own on the first monograph of an idiot treated by the physiological method: "*Résumé de ce que nous avons fait pendant quatorze mois.*—Esquirol et Seguin, Paris. 1839."

The oldest of these documents, preserved by Linnæus, belonged to that class whose main object was—irrespective of their solid foundation on facts—to be wondered at. The later were of the sentimental cast, whose characters and incidents affect the physiognomy of arguments in the great lawsuit of Nature *versus* Priesthood. From Itard to this day the monographs of idiots were either psychical, anatomical, or physiological, but none of them bore the marks of general observation pertaining to the labor of a true anthropologist. To be ourselves one of the delinquents may give us the right—at least it gives us the pluck—of declaring that we for one, and possibly we as a whole (Itard less than any of us), have been sadly deficient in the catholicity of our biological knowledge; and that if we stood by the idiot with a humane desire to help him, and did him justice in the main, we handled idiocy with awkward

* See their list completed up to the "Savage Boy of the Aveyron," and above seventy more recent observations, page 17, *passim*, and appendix, in "Idiocy," etc., by E. Seguin. William Wood & Co., publishers, 61 Walker Street, New York. 1866.

and incomplete grasp, and did not do justice to the whole of the problems it includes.

Some years ago this avowal would have made an unfavorable impression in reference to the whole matter upon a numerous class, holding an influential position between the friends and the inmates of the new institutions. But now the schools have done too much good to their pupils to be shaken by the disclosure of an imperfection which does not affect their direct object, the training of idiots. On the contrary, the taking the problems to be mastered bravely by the horns, will strengthen those engaged in the fight, consolidate their social position, and elevate their scientific character.

2. *Idiocy Considered in its Future Bearing on Anthropology.*—It must be studied by itself in its generality, as if it were an abstract being, an entity. This view includes all historical and statistical documents on its proportion to population and sexes; on its gravity; on the number of functions modified by it; on its concurrence with or apparent relation of cause and effect to other affections. It includes, besides, the study of isolated idiots, in view of following through their life, treatment, and beyond death, the elucidation of certain questions of correlation of organ to function, which are the desiderata of the present hour, and whose success depends, in a great measure, upon *the selection of typical cases*.

It is not every idiot that is endowed with the wretched conditions necessary to lay the foundations of a complete monograph; some would offer excellent traits, but there is an hiatus in their history; or others come with an uninterrupted record, running back, as it is desirable it should, unto uterine life, but their case presents no general interest, nor special points worthy of attention; or is associated—we might almost say polluted—with other diseases, epilepsy, for instance, whose deleterious effects upon activity and feeling confuse the symptoms, and whose future organic alterations, on the cadaver, may be mistaken for pathological evidences of idiocy.

On the other hand, if few idiots are fit subjects for general monographs, more are precious for the interpretation of iso-

lated points of diagnosis, pathology, therapeutics, and even normal physiology. But these limited observations are limited only in regard to the point to be enlightened. In every other respect, to be valuable, they must be as thorough as the most extensive monographs; otherwise some important elements of judgment would escape. For instance, if one has prosecuted for months the development of a missing function, as if he had given years of attention to a general training, it is equally important, in either case, that he keeps notes complete of the general disabilities, of subsequent general progress, and eventually of the anatomical and histological condition of the different nerve tissues at least.

For these and other reasons, the typical cases destined to serve as sample material for the *philosophical history of idiocy* have to be chosen as early as possible, and worked eventually through several generations of observers. Otherwise there is treatment, but no observation, and, therefore, no experience. Idiots are improved, the knowledge of idiocy is not; and, for fear that constant familiarity with the sight of idiots, in all their modalities, or modes of being, would blunt the senses of the standard man in the mind of the observer, we consider it paramount that any investigation made on idiocy upon idiots be conducted *pari passu* upon normal subjects with the strictest similarity; at play, at school, on the sick list, or on the cold slab, when possible; everywhere, near the abnormal, the normal; next to the shadow, the light.

This study and parallelism lead us to new inquiries:

1. *What Causes Produce Idiocy and Collateral Affections?*—

Though no general question is so identified with the former researches relating to individual idiots, yet it has not received, so far as we know, that authoritative solution that would prevent much evil and produce much more good. It is evidently one of those questions that could not be answered by indirect prospecting, and must be inquired into with the direct object in view of eradicating idiocy itself from our midst, if possible. But is not everything good possible to men? And why did they conglomerate in families, tribes, and nations, and why do they try to unify now in one humanity, but to extend to larger

groups these once reputed impossible benefits? Have they not already eradicated anthropophagy and leprosy? Are we not now rapidly suppressing slavery, small-pox, cretinism? And what retards the disappearance of idiocy, and an elevation of the moral type of mankind comparable to the physical beauty which has retaken its seat on the human face by the atoxic effect of vaccine? Nothing so much as the insufficiency of its etiology; show us its cause, and we will stamp it out.

In former publications, intermarriage, intemperance, the dread of political slaughters, like those perpetrated by Louis Philippe in Lyons, and in the Rue Transnonin, by Cavaignac, in June, 1848; by Napoleon, in December, 1851, have been traced as direct causes of idiocy. But this is a place only for new facts acquired by recent experience. Persons engaged in the treatment of idiots are nearly unanimous upon the fact that the victims of idiocy have grown more numerous. If so, the causes of this infirmity must be on the increase; and what are those now and newly at work?

Referring idiocy, in the main, to the conditions of uterine life, what recent circumstances have occurred that could have further impaired the woman as a breeder of embryo and fœtus? Her intellectual culture, social and physical gratifications, have fully kept pace with those of her partner. Her relations to the latter are, if anything, more equal and independent than formerly. He, certainly, is less overbearing, less rude and brutal (according to social station), than he was in the good old time. She has more right to her own, and to what he makes, and yet woman is not satisfied. Then, what is the matter? The gist of the matter seems to be: "Better," said *Enfantin* and *J. S. Mill*, "if women would tell it themselves;" that, with more subjects of gratification of mind and body to-day than in the past centuries, women are uneasy, unhappy, because they

* Moral and physical evils are so intimately connected, one with the other, that they look like two names for the same thing. For instance, the eating of a raw animal substance, culminating in anthropophagy, is everywhere punished by lepra, as the slave-trade germinates in slavers' bottoms the pustula of the small-pox, and so forth.

do not feel themselves adequate to their task. Their education—a jumble of that which has made all the male *inutilities* we have known—has not taught them an iota of womanhood. Their hygiene and habits have disqualified them for motherly functions ; city and house narrownesses do not offer more room for a new-comer than their slender pelves ; their tastes run toward niceties incompatible with married life ; fecundation is the result of maladroitness ; its product, unwelcome, ill-fed, ill-treated before as after birth, conceived in apprehension, remains a nervous ruin, or disappears in a storm of some sort. At this spectacle we can sorrow, but not wonder. Can we expect woman to know what she has not learned, or to resent feelings whose warmth never descended into herself ? How, besides, can she conceive and nurture, with a living enthusiasm, a child she has no strength to carry, no room to grow, no substance to feed, no idea how it is to be handled, cared for, etc. ? The heaviest task when it is not the dearest, she shifts it off, coming out from the struggle with a sad countenance and emaciations foreboding early degeneracy of some vital organs. To be frank, we physicians, teachers, and parents are more culpable than herself.

On the opposite side, referring to the many women overfaithful to their vow to help their mates any way, any how, we should say that their task, their whole task, as mothers and wives, heavier than many hard laboring-men could stand, has, of late, been greatly aggravated by their being made participators in anxieties external to the home. Too few husbands spare their young wives in this ; and many women—be it genuine eagerness or natural inconsideration—rush to an often impossible rescue of the sinking fortunes of the family, and too often, thereby, prepare their own destruction. It is of no use to enter into particulars ; when a pregnant woman has, besides the trials of gestation, and during that exalted state of all functions, to endure the multiple trials commanded by an heroic or silly sense of duty, the chances are many that her infant will bear the stigma of the struggle. And what is the fatality that, to-day more than ever, pushes men to undertake more than they can do ; and, as a sequel, women to make ulti-

mate sacrifices? . . . In nearly every case it is the rent—the rent, growing by day, by night, in work, in sleep, in sickness, in death. Increasing every year, the rock of Sisyphus was a pebble compared to it. The renter knows no remission, no alleviation, no day of the Lord. He is the lord, and more, the landlord. Under his sway, Christ had not a stone to rest his head. The foetus has no place to grow in peace. Woe to the pregnant woman and her fruit caught under that crushing millstone !

The ancients were wiser. By the regulations of the Bible, young Israelite couples were allowed to live one happy year free from labor and necessities. This was economy, since it cost less than the lifelong support of infirm children, born of ill-developed and care-worn young women, who themselves hardly ever recover from the simultaneous drain on their constitution of pregnancy, over-work, and moral distress.

On the contrary, no wonder that, from the martyrs of the flat and depressing dramas silently enacted to-day for a miserable livelihood, are born children, not only idiotic and epileptic, but insane. This is a remarkable instance of interpolation of a new link in the chain of adaptation. When pregnant women were simply exposed to home brutalities and privations, their idiotic children were of the simplest types. When the mother had, besides, the mental activity that education and society develop, the idiocy of her child was of a more complex character, as shown by Mrs. Brown. But as soon as women assumed the anxieties pertaining to both sexes, they gave birth to children whose like had hardly been met with thirty years ago ; insane before their brain could have been deranged by their own exertion ; insane, likely, by a reflex action of the nervous exhaustion of their mother.

If the present condition of women has such and other correlated influences upon the future generation, this evil must be made a valuable argument to change that position. But what is the use of putting on the gloves of hypothesis, when we refer, to a great extent, the malformations, ill nutrition, and anomalous tendencies of children to the inactive, useless, and unreal education of women ? The facts speak higher than our voice

when showing the most healthy, well-balanced, and serviceable children to be born of women hardly educated at all, but used to a hearty life. Truly, those who cause women to receive an anti-physiological education might dread fantastic procreations; and foresee, under the impossible delicacy of forms of the young lady, the wavering penumbra of the future idiot, insane, or epileptic.

The third evil is more complex, though having, too, its deeper roots in improvident education. We overburden women; they overburden themselves, and choose or accept burdens unfit for them. Besides, their uneasiness results from being moved by several inward currents, neither of them strong enough to cut an open channel through the social obstacles. Among others, is the current toward matrimony, swift sometimes, rarely strong enough to overcome the asperities of a day and night dependence, the heaviest of all; and marriage is that, or a deceit. Another current is toward freedom. Being less subjected to animal instincts, and therefore not so easily subdued as women of other ages, heavier fed and less intellectual, those of to-day declare their independence and seek for it. But they do not possess, to the same degree with men, the two elements of it, capital and working capacity; so that most of these protestants against the rule of man are yet reduced to the, so far, only orthodox course—of accepting the means of support from the envied sex. This is a very painful state of transition for both parties in which men do rarely appear to have received, in feminine money, the equivalent of their would-be liberality; and women suffer from their incapacity of being, one way or the other, neither dependent with contentment, nor free with self-reliance. Children, gotten under such moral and other pressures, can not truly be said to be born from the union, but rather from the disunion of their parents; conceived in antagonism, they can only be excessive in their tendencies, or monstrous in their organization. This condition of family affairs will last till physiological education shall have fairly developed the tendencies of women; of some for motherhood and matronly station, of others for artistic talents of various grades, which can insure their independence.

There is nothing new in this position. On the contrary, it is so old that it seems to be entirely forgotten.

Women who have remained single, by their own choice, our own dereliction, chance, misconduct, maltreatment, injustice, over-destruction of males by war, or over-production of females in our species, etc., etc., have not always been lowered or cast away among the dangerous classes by our intermittent repulses and caresses, in disregard of their natural higher aspirations. Nor have they always been shut up in convents, where their capacity for labor and power of tenderness are buried alive in incense, music, and moral annihilation. Nobody seems to remember that once the laws, habits, and religions even, provided not for one class of women only, but for all classes. Such sayings as that of Taney about a whole race of men, that some women have no rights that we are bound to respect, is a modern infamy ; since, behind every lost woman, may be seen, Mephistopheles like, the phantasm of a man's lie. Let us sooner recall the times of Pericles, when the greatest statesman of Greece was his unmarried friend and adviser, Aspasia, one of the *hetairæ* * of Athens. Then all classes of women were respected, or at least had their rights acknowledged, because all had their archetype in the Greek heaven, Olympus. But as for us, we had only one type of womanhood ; and our incredulity or its uselessness has broken it. Alas ! The rekindled worship of the Virgin Mary does not protect the mothers better than the Made-lines, and serves only as a delusive mirage to lull the despair of nuns. In our Blessed Lady, the impossible has killed the ideal.

Truly, in a tradition which dates but of yesterday, we have carved, out of reality, a beautiful type of womanhood, whose reflex influence can be read on the countenance of American mothers. But the likeness to Martha Washington's face, whose beauty is virtue, can be reached by the young woman only through an intermediate type of youthful perfection, that is yet to come out from the development of the national character. In the absence of that youthful educational type, it is fortunate to

* See the learned researches of L. P. Brockett on the historical conditions of women, in his book, *Women's Rights, Wrongs, and Privileges*.

be enabled to say that so many young women resist dear temptations by the sole power of their inward excellence. But, of course, treating of idiocy, we meet with the unfortunate exception.

The fourth evil is gambling. It spread from a few narrow pieces of green baize into the wide world by the alteration recently introduced—without corresponding legal check—in the form of property titles. Lands, roads, canals, factories, mobilised in shares, surrender their profits, not to their workers, but to the gamblers thereof. Thus millions of men, instead of going to work every morning, descend in the street, bourse, or exchange, to secure by hook and crook, their share of the spoils. That most of them get soon ruined, and would be dishonored if they had a name, is alien to the matter under consideration ; but that their wives and families are kept under the dread and demoralizing influence of their *noble* life is to the point.

Women—who would cherish the idea of raising a brood of loving creatures, if they were but mated to a cobbler, who *secures* by his labor three or four dollars a day—pray earnestly to God to send them no children to fear for, in their mortgaged high-stoop residence, or boarding tinsels, between a Noah's trunk and a suspicious bank-book. Those who become mothers in these dread conditions may feel the anguish of their womb communicated to their fruit. I have attended a mother of a remarkably fine family of four children, whose fifth was affected in this wise. During that pregnancy, her husband was deeply involved in speculations ; he would say nothing to her about his chances, but she knew daily, by the way he ate, how much he had lost. One day she saw him swallow his dinner without masticating at all ; she fainted away, the child hardly moved after, and was born a cripple and an idiot. Even strong men betray their ruin by some signs. Fisk could tell how much Gould had lost by the quantity of minced paper he scattered around his desk ; wives feel more keenly yet. The fiend laughs, but the wife of the loser shakes. Add, to these barons of the dollar, coming from their strong boxes, like bishops and dukes of old from their strong castles, to prey upon the revenues of labor, other uncounted millions, clerks, lawyers, doctors, importers, etc., seemingly dealers in

eggs, prayers, pills, flour, bacon, silk, etc., but in reality devotees of the stock exchange, whose fluctuations are carved on their face like deep cuts of the knife in a mouldering log. The women whose social standing depends on these fluctuations soon learn to read *his* facial ledger, upon which he can not, for them, make false entries ; the wife does not kiss her children without a tremor for their future ; the daughter can not build one of these ideal castles of purity and happiness in which girls like to fall asleep, without seeing it crumble under the hammer of ruin and shame.

In this, do not women but partake of the anxieties of men ? What an error ! Man suffers through his head and heart, woman suffers besides, and more, through her womb. This privileged torture, which ranks her alternately so far above or below us, is the point at issue in moral gynecology. If women live in serene and secure circumstances, however high or low, their sexual qualities and capacities expand. Girl, her chest timely swells under the waves of even hopes and rythmical breathings ; her basin enlarges in harmonious proportion, and a full, mellow voice gives the diapason of her feelings. Mother, she watches with the untiring equanimity of confidence the spread of her race. But obstruct the clear vista of esperance from the former, and remove the solid canopy of security from the latter, and the womb of the one refuses to attain its physiological proportions, and that of the other, alternately depressed, exalted, relaxed, contracted, burned, and chilled, becomes hemorrhagic, exsanguious, or cancerous ; with the moral results of barrenness, foeticide, idiocy, epilepsy, etc.

Who of us dare to condemn these women ?

If they had less feeling, they would not care for the future.

If we were more just, at home and abroad, they would suffer less and not be so bad.

The foregoing causes of the increase of idiocy and kindred infirmities should be particularly investigated ; and, if it is demonstrated that they have produced, generally, the disastrous consequences which the writer has observed in his limited experience, those causes ought to be combated with all

the force of our moral and professional character, as well as with the arguments drawn from past experience and knowledge. For this emergency, the domain of physic becomes commensurate with the want of society ; not by any assumption of our own, but because it happens that, in the present period, no other men, as a body, possess, to the same degree as physicians do, the cyclopædic elements of judgment in this matter.

None but physicians are qualified to inquire, and even to pry into these questions of human affinities, gestation, breeding, physiological training, emasculation of capacities, social vampirism of the idle upon the busy people, etc., which prepare, as a leaven, the rise or disorganization of certain human families. Rome declined, and Constantinople crumbled, not because the priests of Jupiter or Cybele, or St. Sophia, ignored these questions, but because physicians who ought to have studied and solved them with authority, as did Hippocrates, Aretæus, Alexander of Tralles, neglected the philosophy of physic, and its application to social sciences, for the disputes on pharmacology and demonology, or between herbs and amulets, etc. But among physicians, none are better qualified to fulfill this philosophical duty than those engaged in the treatment of nervous diseases, and especially of idioey.

We say "idioey," because the time has come for the treatment of "idiots" to take somewhere that synthetical shape of a comparative study of idioey contrasted with normal youth ; of the means of educating idiots and other children ; of the methods of renovating life itself where it is deficient in the ill-born, and of increasing it where it exists in the well-born child.

Indeed, the time has come when, with a due regard for their welfare, and an unremitting zeal for perfecting the hygienic, medical, and pedagogic method of treatment adapted to their abnormal perfectibility, idioey will have to be observed in its relations to anthropology ; and the *rationale* of its treatment will have to be studied in its bearing upon the most intimate problems of the development of man by education.

After the etiology of idioey, the first symptoms of it which can be appreciated are full of interest, but surrounded by much mystery and uncertainty. They can not very well be studied

in the existing institutions where children are admitted quite late in youth. This is somewhat of a new inquiry, which needs sincerity and confidence in both ways, on the part of the mother, and on that of her physician.

What are the early Manifestations of Idiocy?—(a) *In the Mother.*—Eventually, we may be called to witness the whole period of gestation, whose circumstances give rise to the suspicion that its fruit may possibly come out altered by idiocy. Here our duty is double. Toward science—that we are bound to forward by all fair means—we are under the professional obligation to watch and note the case in all its particular actions, feelings, ideas, dreams even. After all, if the child comes out right, the world is the gainer; if, on the contrary, our previsions are confirmed, our observations accrue to the benefit of science. But toward the mother and the new-comer our duty is very different. We must not awake in her any suspicion of our surmise; nor forget that moral impressions are considered by many—with or without truth—as controlling certain results of pregnancy; nor that, if a woman apprehends our suspicions, she may instantly and thenceforward take her share of them to the detriment of her health, of her nutrition, and of the child; that her interest in the matter is one of life or death, and ours only one of observation. In a word, let us remember, that our first duty is toward the living, the second to science. But those occurrences are rare in which idiocy may be predicted, and the materials for its history prepared with a foresight—the more precious when we meet with one of them.

Oftener, what we know of the events and incidents of gestation comes to us later, by hearsay, or by the mother herself; sometimes with an indubitable color of truth and reality—at others, tinted or evidently distorted by the imagination. So that we must pay great attention to what we hear on that score, of events and feelings in pregnancy; but be much more particular about the place we assign to these details in our memory or memorandum.

(b) *Early Manifestations of Idiocy in Infancy.*—The beginning of children, like that of nations, is enshrouded in fables; that of idiots and of great men surpasses all in marvels. Let

us only inquire how he suckled, and how long he slavered, and when he began to hold his head, pay attention by the ear or eye, hold and let go intentionally and not much more. This is enough to characterize an *infant idiot*, but does not improve

(c) *Our Knowledge of Idiocy in Infancy*.—This knowledge seems to be attainable only by keeping together, like twins, a normal and an idiot baby; and we will see in one cradle vigor, command, joy, anger, and tears; in the other flabbiness, no feeling but that of hunger, no laugh, no tears ascribable to human causes. When the time for action arrives, one sits, ereeps, falls, to rise again; the other, crouched, keeps his hand in his mouth. One begins to speak; the other only moans. When one supplies himself with all the good and bad things he can lay his grasp on, the other would starve, if he was not stuffed with a uniform soft food, often pushed into the gullet by the helping hand, deglutition being as impossible as mastication. All the senses of one are wide awake; of the other dormant. One induces, deduces, supposes, inquires, to both action; the other continues unimpressed, impassable, isolated, *idios*.

But these two cradles, or sooner, these two children, but in reality these two types—since we have in view *normal youth* and *idiocy*—must, as anatomical models stand in school, be kept in constant parallelism, where idiocy is studied as a branch of morbid physiology. Then, by the sedulous and timely observation of the minute physiological deficiencies, as they prevent action in one child, and of the corresponding efficiencies as they develop themselves in the other, and incite him to action, our sketch will be completed into a perfect and useful likeness of human incapacity contrasted with human capacity.

We say perfect, because it is the work of years, that must be rendered more and more accurate by notation of the minute symptoms in their order of evolution; and useful, because, upon the tested and retested reality and finish of these descriptions, will rest the new means of improvement to be devised by physiological teachers.

(d) *Symptoms of Idiocy under Training*.—They may be im-

proving, stationary, or increasing. That is the question not only for the individual idiot, but to determine the character of idioey in a given case, and to test the influence of some parts of the training on children at large.

Every child entering the institution with as complete a record as could be gathered of him and of his family antecedents, this record will grow by a sort of alluvial process from all that is done for him, and its results. At first, and twice a year, oftener repeated in cases of sudden changes, the survey embraces growth as well as functional development; the size, weight, and shape of parts, where it is possible; the color and other qualities of tissues, the proportion of blood-corpuscles,* the temperature measured by the thermometer, the contractile power by diverse dynamometers, the tactile sensibility by the æsthesiometer, nourishment, and nutrition, nature of secretions, spontaneity, cheerfulness, and other notable functions, all and each, compared with the same in the average children, that will be kept near by in training, by the same means and under similar observation.

On this point the monographs have attained proportions which permit us to foresee whither their subjects tend. Some have made more or less rapid progress, and qualified for different grades of manhood. Some present meliorations which could not have taken place without the training, though they are

* A certain proportion of red corpuscles in the blood is considered a test of its healthfulness, and less as a proof of anæmia. Hence, various means have been devised to find out its composition in given cases. Among the investigators who have succeeded in affixing their names to some of these analyses of the blood are, Becquerel, Schröter, Schmidt, Scharjin, Zimmerman, Hoppe, Vierordt, and Welcker. More recently Paolo Mantagazza, of the Italian Institute of Sciences, has devised an instrument which he calls the *Globulometer*, which gives the exact quantity of red corpuscles in a sample of blood. One of the advantages of the globulometer is, that it requires but one drop of blood for the experiment. That drop being mixed with a given solution of b. c. soda, a transparent receiver is filled with the mixture, and held before the eye and a specified light, where its degree of opacity indicates the quantity of red disks. This experiment presents several advantages: it requires only a drop of blood, it demands only a few minutes, it can be made at the bedside. Though we personally rejoice in the possession of that little jewel of Italian ingenuity and precision, the globulometer of Dr. Mantagazza, we apprehend that it will not become, what it should be, one of the favorite instruments of positive diagnosis of our professional brethren.

mostly attributable to growth, increased strength, automatic habits, and unavoidable surroundings. Some are decidedly as idiotic as ever. Some actually retrograde, either by an *ab-initio* falling off, or since a certain date, event, or sickness, or by the effects of that young senility of which idiots give the curious, and, as we believe, unique example.

Though individually and socially these results are very different, the first preparing, after a simple practical apprenticeship, to leave the school for the world, where most of them need yet a special protection and home-kindness; the second to pass the remainder of their lives in asylums, where comfort, no progress, is looked for; the third to be kept where their observation may most advantageously be completed. But the only complete result, for all of them, of our eases, statistics, and annotations, is to come from—

(e) *The Post-Mortem Examination*.—There on the slab, more glorious than the battle-field, have laid the unknown but honored heroes, who helped Scarpa, Vesalius, Haller, Morgagni, Bichat, Flourens, Bell, Brown-Séquard, Virchow, Bernard, marshals of the scientific empire, to gain their victories; Harvey to demonstrate the circulation of the blood; as well as Michael Servetus that of the lymphatics, before Calvin had discovered that his brain also circulated ideas worth burning. To lie on that slab, field of scientific victories, is certainly a great honor for any of us, who, possibly good for naught in life, may thus become useful in death. To object to it in any case of idiocy would be an act of hostility to progress, if not of idiocy itself doubled with *fatuitas*. After nursing, educating, cherishing the idiot as no family can, because we do it with the full comprehension of his value in the study of anthropology and physiological education, we want to compare his head, imperfect *chef-d'œuvre* of organism, with the written record of its imperfect functions, we conscientiously claim the right, after recording the effects, to pry into the causes, wherever they can be found. We do it with intention, reflection, pure motives, and respectful hands; we would say that it is for us a religious ceremony, if rites were progressive, in a religion whose author rewarded his disciples by the *post-mortem* apparition of his own body, which

was the forcible anatomical demonstration of the dualistic theory of mind and matter, upon which science reposed till the times of Spinoza, Gassendi, Laplace, Huxley, and his compeers.

It has been objected that anatomy did not reveal in insanity as much as was promised in its name. There is truth in the objection, for various reasons, into all of which we can not enter. Suffice it to say : 1. That the means of investigation at command, till a few years ago, could not reach to the intimate structure and nature of the nervous tissue, and that some more improvements in this are eagerly looked for ; and, besides, that probably a good deal of the attention hitherto paid to the arched convolutions should be directed toward the many and distinct parts which crowd the base of the brain ; in fact, that the study of the nervous system is just beginning. 2. The expectations about always finding the material lesions of insanity have also oftentimes proved fallacious, because, when a physical cause has produced insanity, an organic lesion may generally be found ; but when it is from mental cause, it may come so late in life, it may be of such minor severity, and of so short duration, that it can not leave their imprint on the organism that our present instrument of study could detect. 3. The condition of idiots is absolutely the reverse of this. Idiocy begins to show its presence always at birth, or at the latest when the babe holds yet to its mother by the mamnæ ; and, for its causes, they generally date from some period, more or less remote, of the gestation ; besides, it is never a mental anomaly alone, that is to say, isolated from other functional anomalies, as insanity often is. Therefore, as we see in the idiot the effects of the other functional deficiencies upon their respective organs, we are led to expect that the same correlation will obtain between the perceptive and mental functions on one side and the state of the various cerebral organs, on the other. If we do not err in this, the possibility of demonstrating that correlation in idiocy would be dependent upon the accuracy of the method used in the investigation, and not on eventualities as we apprehend it often must, in insanity.

This point gained—and we think it ought to be made irrevocable by a written agreement with the parents of the pupils

before their admission—we will have secured all the means, as far as the idiots themselves are concerned, of attaining the multiple object of such moral institution—which mainly are :

(a) *The causes of idiocy to be thoroughly investigated*, and the parties interested in the prevention of these causes, especially young women and their husbands, made aware of the dangers incurred in their posterity by any breach of the laws of moral health and society, which may deeply impress a pregnant or nursing woman. To this department alone, the publication of the results of our researches on the intimate, even secret, even criminal, causes of idiocy—always omitting names, of course—will do a great deal of good ; particularly in spreading the dread of hereditary punishment set forth in the Bible, and in enforcing the claim of women to more kindness, and sparing, when they are in the most delicate and impressible condition.

It is not unreasonable to expect that from these, and similar moral improvements, and physically from the transfer of the pregnant women from the crowded abodes of the city to the comfort of airy and wooded regions—from abundant plain food, exercise, and no excitement—young mothers would be more able to bear and nurture their children in physiological conditions, and the children would be born in due season, without the influence of enervation and ill-nutrition which tend to produce idiocy and cognate affections. Hence these evils would rapidly diminish.

(b) *The treatment of idiocy would soon be the object of clear and simple rules*, deduced principally from a parallel of normal and idiotic children under similar training. There, anything that could incite a healthy child to activity and attention, would be tried on an idiot. Anything which would have made an impression on an idiot, would be tried on a healthy child ; rendering manifest the similarity or dissimilarity of impressions made by the same phenomena on both. The result would be our gain, soon to be transferred from the experimental to the practical field of education. These results of experiments would be expressed—we would sooner say cast—in a series of propositions, whose total would constitute—

(c) *The principles of physiological education*, because they would

be strictly drawn from physiological experiments. To attempt to give here an exposition of these principles—which are already established elsewhere, and are yet susceptible of increase in number, perfection, and extension—would be like a trial of inserting a full didactic treatise in a discourse. However, a comprehensive exposition of the mental process by which one of these principles of physiological education was arrived at, does not seem a work of supererogation here, to give you, Mr. President and gentlemen, the key to the way of discovering new ones.

(d) *Educating the mind through perceptions* instead of by pre-arranged reasonings. When we speak to the reason of a child with our reason, he understands us, more or less correctly or not, always in his own manner, that we can hardly probe on the spot, and whose thoroughness will be shown in his after-life, but still his mind and ours have communicated through ideas. How different it is with an idiot! Our mind addresses itself in vain to his mind, an immured recess, never lighted before. This explains why it was impossible to educate idiots as long as education was simply a process of transfusion of ideas from one mind to another. When that impossibility was demonstrated, we had to look for other means of educating the idiot. These means, we knew, we could not obtain from psychology, which had already proved its impotence; we looked for them in the resources offered by physiology; we will presently see with what results.

(e) *Considering all the manifestations of life as expressions of functions, and all functions as resultant from a certain organism*, we set aside the scholastic distinction of mind and matter, intellectual faculties and physical functions. Confident that to call them one name or another does not alter their nature, and could not modify the results of our experiments upon them, we assumed simply that—

(f) “*If we could take hold of an organ, we would be able to make it produce its function.*” From this starting-point we graduated our means of educating the functions of idiots upon the facility of our approach to their organs, and we found that—

(g) “*The organs of sensation being within our reach, and those*

of thought out of it, the former are the first that we can set in action." From this selection—nearly a discovery—since it became the basis of an important part of the method of training idiots, resulted the other aphorism—

(h) "*The physiological education of the senses must precede the psychical education of the mind.*"

These propositions received support from two classes of historical experiments :

Individual Test No. 1.—When Itard undertook, in 1801, to educate the savage boy found in the forest of the Aveyron, France, after the Abbé Sicard and other psychologists had tried in vain to communicate ideas to that child of Nature, who knew absolutely nothing but temperature and hunger, Itard succeeded partially in educating him through sensorial impressions. For instance, he could not teach him to read—that is to say, to attach an idea to certain combinations of letters—but he could make him identify the figure of a few words with a few things, as, when wanting milk, he presented a card bearing milk written on its face. Milk was not a word, it was a sign for the savage. Of his purely sensorial education, Itard gives another example rather forcible, though not enforced by moral considerations. The boy would sometimes bite a man in anger, as he had done rabbits to satisfy hunger in his former haunts ; Itard, once thus cruelly bitten, seized the delinquent by the abdomen, and held him out of a window three stories high, apparently ready to drop him on the pavement. He became very pale, submissive, subdued, and never bit any more.

Individual Test No. 2.—Caspar Hauser, when he came out of his prison, was a perfect blank, as regards both impressions and ideas ; having felt nothing, he knew nothing, and had no thoughts. His teacher, Daumer, took precisely that view of him ; and, instead of reasoning with him, spoke to his senses, educated them to receive impressions, and ideas resulted from these impressions within a short time. As he had been formerly made an artificial idiot by forced isolation, so, the day he was born to feeling, his mind was born also ; being formed, by strata of perceptions, as geological treasures have been, or sooner as

are photographic impressions, whose mass would represent the entire knowledge of a man.

General Test No. 3, by the Affirmative.—This same mode of treating the mind out of the cultivation of the perceptive powers attained its highest perfection when applied in antiquity to a confederation of peoples, who thereby were enabled to exhibit every four years, not more industrial products, but more manly genius, than any nation ever did. Greece, from Asia Minor to Sicily, educated by the sensorial process, sur-excited by the divine types of sensorial perfection, presented to it as a rational and religious teaching by its poets, artists, priests, oracles, historians, attained the royalty of the mind over the world during the Olympic period from Pythagoras to Alcibiades ; and

General Test No. 4, by the Negative.—The period in which we find the heaviest dunces on earth is that in which mankind reprobated the education of and by the senses, aimed at developing spirituality by purely intellectual education, and became entangled by erudition in the depths of ghostly imbecility. That was the time when individuality was treated like insanity ; when Cardan and Paracelsus were branded for having foreseen the alkaloids in crucibles and test-tubes, instead of cultivating the alchemy of the infinite.

Test No. 5, by the Absurd.—We have seen a race, hardly extinct, of *accomplished scholars*, who could not tell anything, even “good morning,” but in the words of Horace, Sophocles, Milton, etc.—useless as harmless gentlemen, caressing a heavy chin encased in a high cravat, when loading the atmosphere with continuous eructations of Greek and Latin.

Thus, the experimental education of a savage idiot, the philosophical development of a young man, previously kept in artificial infancy by isolation, the brilliant and solid results of the polytheistic training of several nations, the humiliating consequences for European intelligence of *meta*-physical and pseudo-classical training, concur in the demonstration, otherwise and directly given, during the last thirty years, in the school for idiots, that “*the physiological education of the senses is*

the royal road to the education of the intellect ; experience, not memory, the mother of ideas."

Let us mark that this touches only one of the problems of education so dear to humanity, vital to our race. The school for idiots has been equally ahead in those questions relating to the effectiveness of, and harmony between the different systems, muscular, nervous, etc., by education in gymnastics, imitation, etc. But this view of the subject is out of our present reach.

These institutions having taken the leading part in this movement, given the impulse, or the direct example, to the schools where objects are now the systematic theme of lessons, and the faculty of imitation is trained like the other manly capacities ; having thrown already some light upon the phenomena of our half-civilized life which produces idiocy and cognate affections, it could be easily shown that, in giving prominence to the improvement of their pupils upon that of the method, these schools have acted in accordance with the public's eagerness, which claimed first the individual results of the new institutions, as a condition *sine qua non* of their support ; but that, in locating these schools through the country, in view of the comfort of the inmates, and of the convenience of their families, they have put them out of the reach of the course of scientific men and means, which are concentrated in capital cities. These were temporary or local necessities.

The position of the existing asylums, excellent for their individual object, *the treatment of idiots*, may be maintained with advantage, but must be strengthened by the creation of a superior institution for *the treatment of idiocy* ; where questions corollary to this affection, and those issuing from the principle of physiological training ; the correction of the early anomalies of the mind, and the training of youth according to the methods most akin to human activity, will be the object—a school, normal by its intellectual procedures, central by the position it will occupy between exceptional and common schools ; in which the principles will be looked for as lovingly as individual pupils are in others ; where *questions*, more than *children*, will be treated.

This necessity of the situation—for, if these institutions do not progress, they will retrograde—demands the selection of a suitable place among scientific surroundings; the direction of a man who understands the philosophy of that labor, the selection of microscopists, anatomists, psychologists, young medical men eager for study, devoted women ready to teach, to nurse, and to acquire the capacities so much wanted in other schools. With this force at command, there will be treated, besides the questions directly relating to idiocy and medicine, those which touch society through education. It is not a minute too soon.

From all the points of the compass, steam and electricity accumulate men and ideas on this continent that will soon be, for good or evil, *the new world*; new for evil if the comers invade us, not by the sword, but by their low spirit of submission to Eastern or Western bonzes; new for good, if we are ready, with a powerful physiological system of education, to assimilate them, women, men, children, of all races and colors, to our unity and independence.

Now that the holiness of ignorance and submission has been proclaimed as the fundamental dogma of education at the antipodes of humanity, let us physicians, help to build the programme of physiological education, already sketched in the school for idiots. Science will have once more asserted its social powers, and shown that all ideas are sisters in God, which tend to scientific and religious unity.

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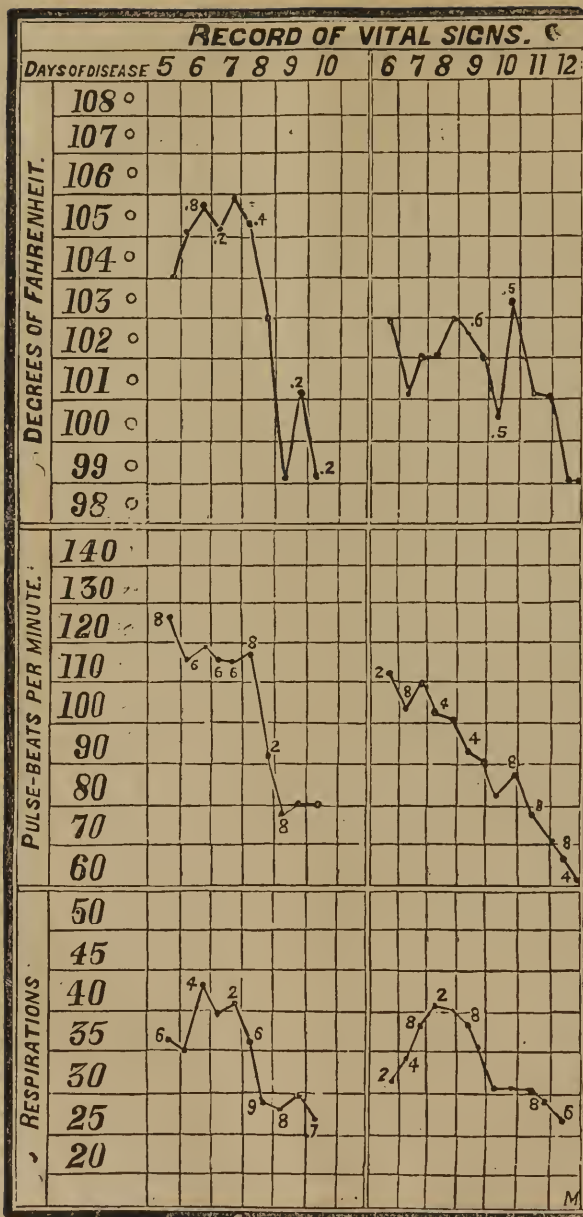
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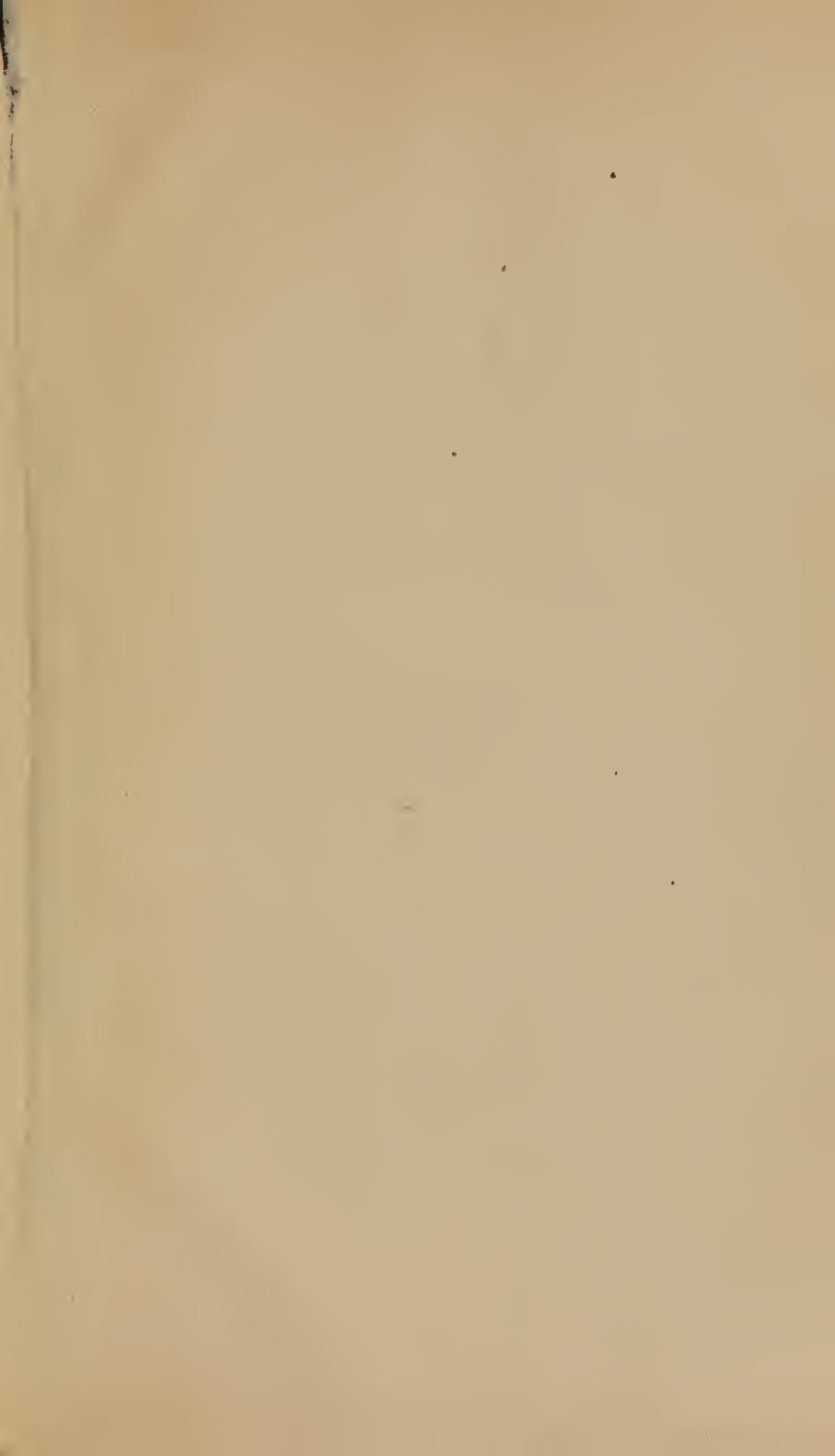
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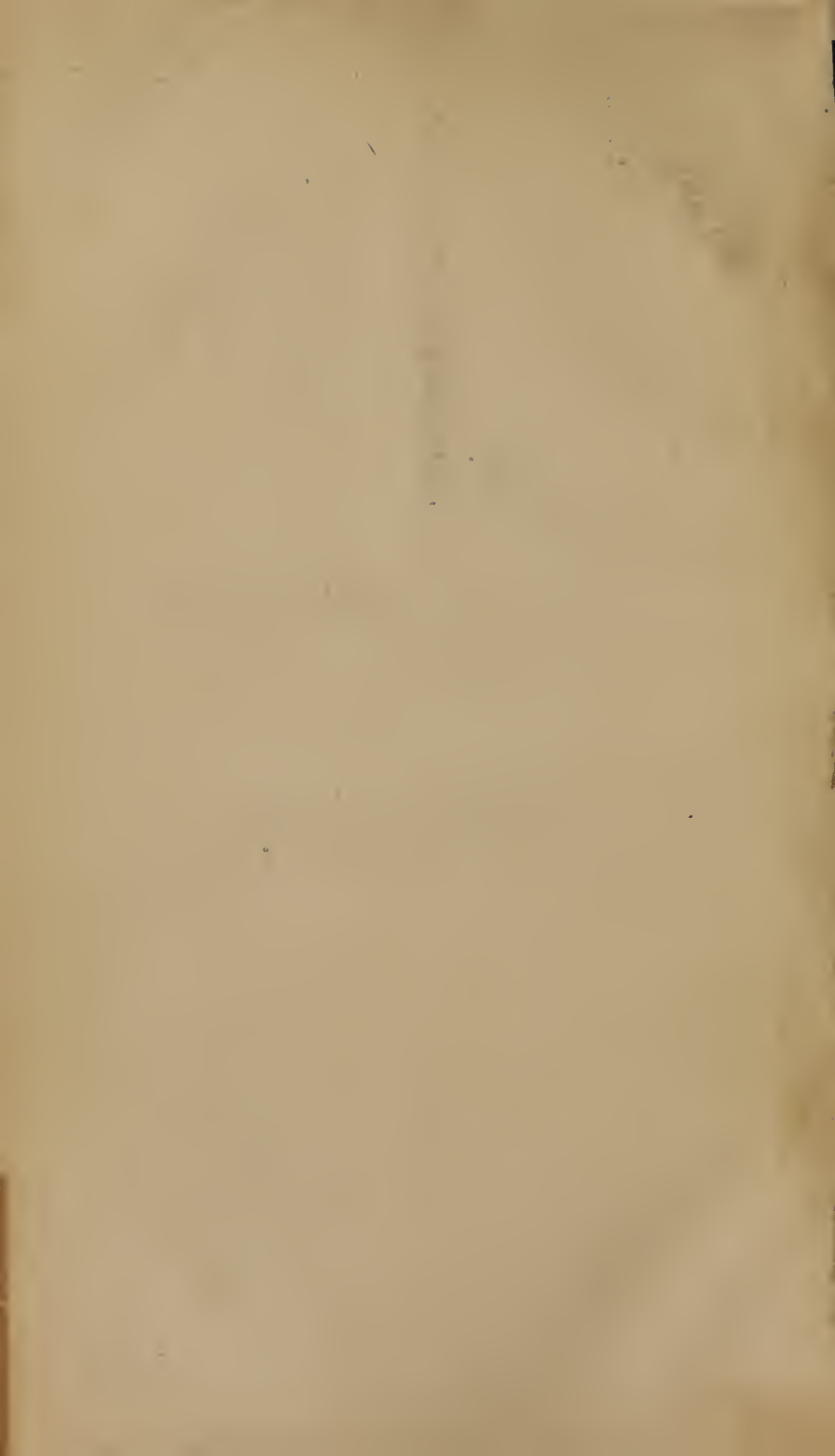
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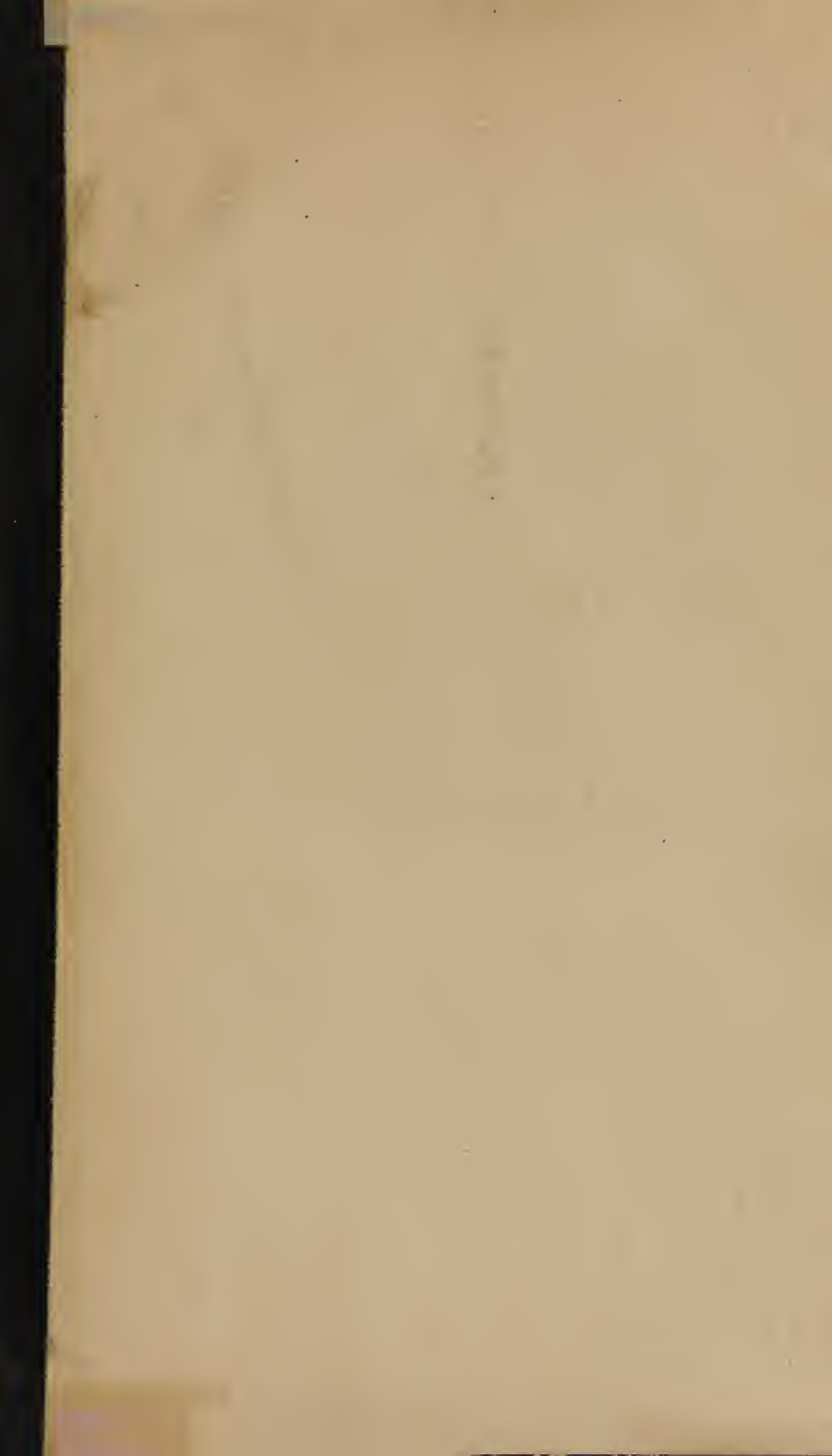
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